

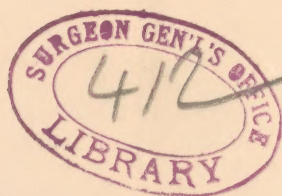
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SIMPLE APPARATUS FOR FRACTURES OF THE THIGH.

[Shown and described before the Boston Society for Medical Improvement, August 26th, 1861, by B. E. CORTING, M.D., Associate Member of the Society.]

THE difficulty of maintaining permanent extension adequate to prevent shortening of the limb, after a fracture of the thigh-bone, has been recognized by all surgeons. The great source of difficulty is the tendency to excoriation, or sloughing, in parts under pressure of apparatus. The groin or the perinæum and the ankle generally suffer most severely; so much so, that sometimes extension has to be abandoned, early in the treatment, to escape the evils of open sores in these parts. Then again, most kinds of apparatus are complicated or cumbersome, as well as costly, while the common single or Desault's splint is not easily managed well, and is rarely satisfactory. So that a simple contrivance, just the thing to secure the desired result, and at the same time capable of being got up extemporaneously on any sudden emergency, would prove a valuable aid to many a practitioner. The following is offered as an approximation to such a desideratum.

In the first place, a pelvis-band of stout cotton or linen cloth, strongly sewed, should be made to fit closely the pelvis and upper part of the hips. Each individual may possibly require some special measurements, but such are not difficult. As a general rule, the band may be eight or nine inches in width, and long enough to surround the pelvis and overlap a few inches. To fit the prominence of the hips, a semi-oval "bias gusset" may be let in on each side at the lower and back portion of the band, beginning, on the lower border, two or three inches from the posterior median line. The length of this gusset may be about twelve inches at its free edge; and its greatest width six or seven inches. Its fulness may be such as to make the lower edge of the band five or six inches longer than the upper. The shape, proportions and place of the gusset can be better understood by referring to Nos. 2 in the wood-cut on the next page than from verbal description. Two pieces of cloth, Nos. 1, with eyelet holes, metallic if conve-

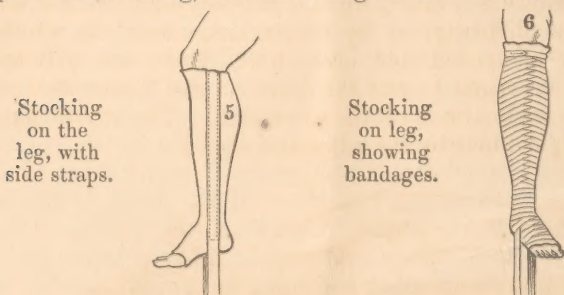
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niently obtained, should be firmly stitched at suitable distances on the front portions of the band. Two strips, or strong tapes, Nos. 3, for securing the long side splint, or a pocket, if preferred, to receive the end of this splint; and a T, or perinaeum strap, No. 4, complete the pelvis belt.



When such a belt has been accurately fitted and properly laced to the pelvis, it will be found sufficient to sustain, without slipping, any amount of "counter extension" requisite. The strain will be uniformly distributed, and no part will be liable to excoriation. Even the perinaeum strap, on which most of the strain comes in ordinary apparatus, will hardly be felt by the patient, and may be secured by a single toilet pin. It will be found quite useful, however, in adjusting the belt, and, from time to time, in guiding a bed-pan. A little attention to the lacing, and the perinaeum strap, will keep the belt in proper position through even a prolonged treatment of many weeks.

In the second place, to obtain the required extension without injury to the ankle or foot, take a long cotton stocking, the thinner the better, and sew upon each side of the leg a strip of strong cotton cloth, which should hang free for a few inches below the foot, as represented in Figure 5. Cut off the tip of the stocking, that the toes may be exposed. Draw the stocking thus prepared smoothly upon the leg up to the knee, or even above it. Apply a thin roller bandage neatly and with uniform pressure from the foot to the top of the stocking, as seen in Figure 6. The several folds of the



roller may be further secured in their places, if thought necessary, by a few stitches with a fine needle and thread. The bandage thus adjusted will retain the stocking in place for a sufficient time. But should the leg waste from long confinement, it is easy, without removing the first, to apply a second bandage, which will give all

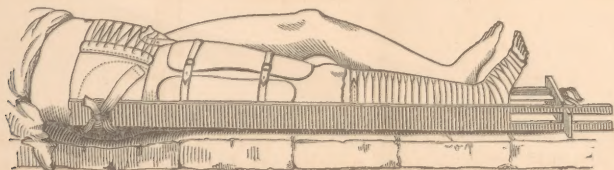
the security desired. Extension being made by the straps below the foot, the whole leg is brought down with the greatest steadiness, and without the slightest danger from undue pressure on any particular portion.

Such a belt and such a stocking we used for many years, in connection with Flagg-Desault's, and other apparatus having foot or cross pieces, movable by screws or fitted with tourniquets, and believe that they possess decided advantages over every other contrivance we have seen tried for the purpose. Moreover, the materials are always at hand, and are of speedy and easy application. But the splints alluded to are not always obtainable at the moment—nor are they essential. One simpler, and equally efficacious, can be readily prepared for the occasion. Take a strip of board two or three inches wide and four feet or so long. Make a hole near one end for the pelvis straps. Cut an open mortice in the other end, ten or twelve inches long, and an inch or more wide. Fit a cross piece, nine or ten inches long, perforated by two holes for the introduction of the stocking straps, to slide in this mortice. See Figures 7 and 8. The cross piece may be retained in position by a pin, as seen in the figure.



To reduce the fracture: having adjusted the pelvis band and the stocking, tie the upper portion of the splint to the band by the straps, Nos. 3. Extend the injured limb and fasten the foot to the cross piece, No. 8, by the stocking straps. If any further extension be needed, the cross piece can be drawn down and secured in place by the pin.

The chief difficulty having thus been surmounted, and a sufficient length of limb secured, any further applications that seem requisite can be easily made directly to the injured part. Short splints can be applied, compresses fitted, wounds dressed, suppuration attended to, without difficulty, as by this arrangement the whole thigh is completely exposed and accessible. Pads and pillows can, of course, be arranged to suit the comfort and necessities of the patient, or the inclinations of the attendant. The whole matter is made plainly evident by the subjoined figure.



Let us take a case, a real one. A physician is summoned to a distant patient (no uncommon thing in country practice), and finds, unexpectedly, that he has a fractured thigh to deal with. It is

near nightfall. There is no time to return for apparatus, and he has none with him. By means of the contrivances we have described, he can soon put his patient into a proper and comfortable condition. While the women of the household are preparing, under his direction, the belt and the stocking, he seeks a suitable board, and with a common wood-saw and a pocket knife, if no better tools are at hand, prepares the splint and cross piece. A common nail answers for the pin. With these he soon has his patient, if not as presentable, at least in as artistic and effective accoutrements as if he had the resources of a hospital at his command.

For fracture of the neck of the thigh bone, the belt is often all that is necessary or advisable to apply. In such cases, the belt should be a little wider, and come down more over the hips. Extension of the limb should be made before lacing up the belt, and the perinæum strap should be well padded and securely fastened. Suitable compression on the injured parts may thus be obtained, while the gusset will in a great measure prevent retraction of the limb.

Roxbury, September, 1861.

